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USER MANUAL

VTEC 4200 Big Mama

for distributor address see packaging **www.nosram.com**

1. WARNING NOTES

No toy. Not suitable for children under 14 years.

Keep the product out of the reach of children.

Pay close attention to the following points, as they can destroy the product and void your warranty. Non-observance of these points can lead to property damage, personal and severe injuries!

- Avoid incorrect connections or connections with reversed polarity of the product.
- All wires and connections have to be well insulated. Short-circuits can possibly destroy the product.
- Always remove the battery from your product or disconnect the product from the power source, if the product is not in use.
- Do not throw away used batteries in the household garbage, but only give them to the collection stations or dispose of them ar a special garbage depot.
- Avoid soldering longer then 5 seconds per soldering joint while soldering batteries directly to prevent damage to the batteries due to overheating. Use a high power soldering station with at least 60W for soldering.
- Always charge the battery outside of the product you want to use. The product could get damaged, if a battery defect occurs.
- Avoid short circuits, overcharging and reverse polarity of the battery or single cells. This can lead to fire or explosion.
- Never open a battery or a single cell.
- Never leave the battery unattended while charging.
- During charging, the battery has to be kept on a non-flammable, heat-resistant mat. Furthermore no flammable or highly inflammable objects may be close to the battery.
- Never exceed the maximum charge/discharge current, which is recommended by NOSRAM.
- Under no circumstances a NiMH-battery shall be deep discharged.
- The battery may never get in touch with fire, water or other liquids.
- Only charge in a dry place.
- Only use chargers and dischargers, which are specified for NiMH/NiCd-batteries by the manufacturer. Never use chargers or dischargers, which are specified for LiPo-batteries!
- Do not use different types of batteries and do not mix new and used batteries.
- If individual cells in the battery pack heat up excessively, immediately stop the charging process.
- **The manufacturer can not be held responsible for damages, which are a result of non-observance of the warning notes and security advices.**

2. CHARGING

We generally recommend a maximum charge current of 1C* and chargers, which are suited for NiMH batteries. Our charger family of SIRIUS and STEALTH are perfect for this application. Make sure not to overcharge your battery pack.

Charge up to a maximum cell temperature of 42ºC, when you are using a temperature cut-off charger.

We recommend the following settings, if you are using a charger of the SIRIUS and STEALTH family:

Cell type	Number of cells	Charge current	Delta Peak	Trickle	Mode
VTEC SC-4200UP „Big Mama“	6	4.2A	10mV	OFF	LIN
VTEC SC-4200UP „Big Mama“	5	4.2A	10mV	OFF	LIN
VTEC SC-4200UP „Big Mama“	4	4.2A	5mV	OFF	LIN

Please note: You can use your VTEC NiMH batteries up to 3-times per day, but they require at least 3 hours minimum rest between the cycles to fully cool down.

* C=Nominal capacity of the battery. E.g. with a nominal capacity of 4200mAh (4,2Ah), the battery can be charged with a max. current of 4,2A.

3. DISCHARGING

NiMH batteries should never be stored completely empty. Always pay special attention, that your battery is not completely discharged. Even if you use the battery once a week, the battery should never be stored completely empty. Be sure to also check the information, which is given in the section „Storage“.

Best results will be obtained, when the battery pack gets discharged with a high current (10 Amps or more) to a cut-off voltage of 5.4V, one hour before you need to start charging. After this, the battery has to be put on the NOSRAM Gravity Evolution Discharge Board (#91370) and has to be discharged to 1V/cell in order to equalize the cells before start charging . Pay attention, that the battery back has cooled down completely before beginning the charge.

VTEC SC-4200UP cells are high-performance cells, manufactured for competition use. Discharging each cell below 1V over a longer period of time harms the battery and reduces the capacity. Therefore we do not recommend the use of any other brands discharge trays with the VTEC SC-4200UP cells. Only use the NOSRAM Gravity Evolution Discharge Board (#91370), which was specially designed for these kind of cells.

IMPORTANT: Do not dead-short or deep-discharge the VTEC cells to 0V. Also do not use the common light-bulbs without a cut-off or a monitoring device. This will immediately damage the cells irreversible.

Dear Customer,

thank you for your trust in this NOSRAM product. By purchasing a NOSRAM VTEC NiMH-battery, you have chosen a high-performance battery for your RC model. Please read the following instructions to ensure, that your NOSRAM VTEC NiMH-battery always works up to your full satisfaction.

NiMH-batteries need special treatment and care. Please read the following instructions carefully before you start using your NOSRAM VTEC NiMH-battery. This user guide contains important notes for the installation, the safety, the use and the maintenance of this product. Thus protecting yourself and avoid damages of the product.

Proceed according to the user guide in order to understand your NOSRAM VTEC NiMH-battery better. Please take your time as you will have much more joy with your product if you know it exactly.

This user manual shall be kept in a safe place. If another customer is using this product, this manual has to be handed out together with it.

4. STORAGE

If you are not using your battery pack for several days/weeks, under no circumstances it shall be stored fully discharged. Storing of fully discharged NiMH batteries even for just a few days immediately damages the cells.

We recommend to only store your NiMH battery packs with some capacity left in them. A common way to do this is to partially charge the empty battery with 4.2A for 25 minutes. You can then store the pack for at least 4 weeks at a temperature of 20°C without problems. Store the battery preferably in a cool place.

Attention: Storing NiMH batteries at higher temperatures increases the self-discharge rate of the batteries. Therefore you have to recharge the battery more often when storing it at higher temperatures.

After a long storage period, the battery pack has to be discharged with a high current (10 Amps or more) to a cut-off voltage of 5.4V. After this, the battery has to be put on the NOSRAM Gravity Evolution Discharge Board (#91370) and has to be discharged to 1V/cell in order to equalize the cells before start charging. Pay attention, that the battery pack has cooled down completely before beginning the charge.

NOSRAM strongly recommends not to use any other brands discharge trays with the VTEC SC-4200UP cells. Only use the NOSRAM Gravity Evolution Discharge Board (#91370), which was specially designed for these kind of cells.

5. RACING TIPS

- Do not use a fan to cool your NiMH batteries during charging, since this will increase their internal resistance and therefore results in lower performance!
- Always try to charge the battery just in time for the race. The earlier your batteries peak before the race, the less power they will deliver. It´s best to have less then 5 minutes from the end of the charge to the start of your run.
- Many of our teamdrivers already install the battery into the car before they begin to charge it. So they can charge the battery just in time for the race.

REPAIR PROCEDURES / LIMITED WARRANTY

All products from NOSRAM are manufactured according to the highest quality standards. NOSRAM guarantees this product to be free from defects in materials or workmanship for 90 days (non-european countris only) from the original date of purchase verified by sales receipt. This limited warranty doesn't cover defects, which are a result of misuse, improper maintenance, outside interference or mechanical damage. This especially applies on already used batteries or batteries, which show signs of heavy usage. Damages or output losses due to improper handling and/or overload are not a product fault. Signs of wear (loss of capacity) after intensive usage are also no product fault.

To eliminate all other possibilities or improper handling, first check all other components in your model and the trouble shooting guide, if available, before you send in this product for repair. If products are sent in for repair, which do operate perfectly, we have to charge a service fee according to our pricelist. The following points do also result in a service fee:

- Use of a non reverse polarity protected power plug system (Competition batteries)
- Send in the battery without power plugs
- Removed or damaged original heatshrink

With sending in this product, the customer has to advise NOSRAM if the product should be repaired in either case. If there is neither a warranty nor guarantee claim, the inspection of the product and the repairs, if necessary, in either case will be charged with a fee at the customers expense according to our price list. A proof of purchase including date of purchase needs to be included. Otherwise, no warranty can be granted. For quick repair- and return service, add your address and detailed description of the malfunction.

If NOSRAM no longer manufactures a returned defective product and we are unable to service it, we shall provide you with a product that has at least the same value from one of the successor series.

The specifications like weight, size and others should be seen as guide values. Due to ongoing technical improvements, which are done in the interest of the product, NOSRAM does not take any responsibility for the accuracy of these specs.

NOSRAM-Distributor-Service:

- Package your product carefully and include sales receipt and detailed description of malfunction.
- Send parcel to your national NOSRAM distributor.
- Distributor repairs or exchanges the product.
- Shipment back to you usually by COD (cash on delivery), but this is subject to your national NOSRAM distributor's general policy.